

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) A crucible for growth of a single crystal along the crystal plane of a seed by melting and cooling an optical part material, characterized in that the surface roughness of the inner surface of the crucible as measured by the maximum height method is no greater than R_{max} 6.4s.

2. (Original) A crucible according to claim 1, wherein the crucible inner surface is composed of glossy glass-like carbon.

3. (Previously Presented) A crucible according to claim 1, wherein the crucible is composed of carbon as the material.

4. (Currently Amended) A crucible for growth of a single crystal along the crystal plane of a seed by melting and cooling an optical part material, comprising a starting material carrying section in which the starting material of said optical part material is loaded and a seed carrying section in which said seed is loaded characterized in that

a tapered cone surface is formed between the starting material carrying section ~~in which the starting material of said optical part material is loaded and~~ the seed carrying section in which said seed is loaded,

the wall surface of said starting material carrying section is smoothly connected to the cone surface via a concave curved plane surface having a curvature radius of at least 1/10 of an inner diameter within the wall surface of the starting material carrying section, and said cone surface is smoothly

connected to the wall surface of the seed carrying section via a convex curved plane surface having a curvature radius of at least 1/10 of an inner diameter within the wall surface of the starting material carrying section.

5. (Original) A crucible for growth of a single crystal along the crystal plane of a seed by melting and cooling an optical part material, comprising a starting material carrying section in which the starting material of said optical part material is loaded and a seed carrying section in which said seed is loaded, characterized in that ~~the~~ a cone angle of ~~the~~ a tapered cone surface formed between the starting material carrying section ~~in which the starting material of said optical part material is loaded~~ and the seed carrying section ~~in which said seed is loaded~~ is set in a range between 95° and 150°.

6. (Original) A crucible for growth of a single crystal along the crystal plane of a seed by melting and cooling an optical part material, characterized in that the contact angle between the crucible inner surface and water droplets is no greater than 100°.

7. (Original) A crucible according to claim 6, wherein the crucible inner surface is composed of glass-like carbon.

8. (Original) A crucible according to claim 7, wherein the portions other than the crucible inner surface are composed of carbon as the material.

9-19. (Canceled).

20. (Previously Presented) A crucible according to claim 1, wherein said optical part material is calcium fluoride.

21. (Previously Presented) A crucible according to claim 4, wherein said optical part material is calcium fluoride.

22. (Previously Presented) A crucible according to claim 5, wherein said optical part material is calcium fluoride.

23. (Previously Presented) A crucible according to claim 6, wherein said optical part material is calcium fluoride.